

IN THE CLAIMS:

Amend claims 1-3 and 9, cancel claims 7-8 without admission or disclaimer and add new claims 10-27 as shown in the following listing of claims, which replaces all previous listings and versions of claims.

1. (currently amended) A semiconductor inspection method, ~~characterized by~~ comprising: microscopically observing and analyzing both the state of a sample surface which is irradiated by an ~~electre~~ electron beam or a positively charged ion beam to charge the sample surface, and the change in the contrast of an area of the sample surface in a highly charged state when ~~the~~ an area in a highly charged state is irradiated with an oppositely charged ion beam or an electron beam.

2. (currently amended) A semiconductor inspection method according to claim ~~1,~~ 1; wherein a the sample is irradiated with an electron beam to negatively charge the sample, the sample is observed by an SEM, the sample is spot-irradiated with a positively charged ion beam, and reversal of contrast of the positively charged area relative to the sample surface is observed with ~~an~~ the SEM.

3. (currently amended) A semiconductor inspection method according to claim ~~1,~~ 1; wherein a the sample is irradiated with a positively charged ion beam to positively charge the sample, the sample is observed by an FIB, the

sample is spot-irradiated by a negatively charged electron beam, and reversal of contrast of the negatively charged area relative to the sample surface is observed with ~~an~~ the FIB.

4.-8. (canceled)

9. (currently amended) A semiconductor inspection method comprising: a first step of irradiating a predetermined area of a sample surface of a semiconductor device on which a wiring pattern is formed with a first charged particle beam to charge the predetermined area; and a second step of irradiating a second charged particle beam charged oppositely to the first charged particles, on in a highly charged ~~desired~~ pattern of in the charged ~~predetermined charged~~ area, ~~characterized in that~~ wherein the change in the contrast on the sample surface after the second step from the time of the first step is observed by a microscope using the first charged particle beam.

10. (new) A semiconductor inspection method according to claim 2; wherein the acceleration voltage of the ion beam is set at a low acceleration of 10 kV or less.

11. (new) A semiconductor inspection method according to claim 3; wherein the acceleration voltage of the ion beam is set at a low acceleration of 10 kV or less.

12. (new) A semiconductor inspection method according to claim 2; wherein the spot-irradiating ion beam is a beam of intermittent pulses with a predetermined amount of charge and the amount of charge on the spot-irradiated area is determined by the number of pulses.

13. (new) A semiconductor inspection method according to claim 1; wherein the analyzing is performed by comparing the change in the contrast of an area in a highly charged state with that of a standard sample.

14. (new) A semiconductor inspection method using a composite apparatus including both a first charged particle beam apparatus for scanning a first charged particle beam and a second charged particle beam apparatus for scanning a second charged particle beam, the second charged particle beam being charged oppositely to the first charged particle beam, comprising:

a first step for charging a sample surface by irradiating the first charged particle beam on the sample surface;

a second step for observing an area in a highly charged state of the charged sample surface with the first charged particle beam apparatus;

a third step for irradiating the second charged particle beam on a selected target area of the area in a highly charged state of the charged sample surface; and

a fourth step for observing a contrast change of the target area while the target area is being irradiated in the third step.

15. (new) A semiconductor inspection method according to claim 14; further comprising a fifth step for observing an area where a contrast changes as the contrast of the target area changes and verifying continuity of wiring or the presence or absence of a defect between the area and the target area.

16. (new) A semiconductor inspection method according to claim 14; wherein the first charged particle beam is an electron beam and the second charged particle beam is a positively charged ion beam.

17. (new) A semiconductor inspection method according to claim 14; wherein the first charged particle beam is a positively charged ion beam and the second charged particle beam is an electron beam.

18. (new) A semiconductor inspection method according to claim 14; wherein the second charged particle beam is a beam of intermittent pulses with a predetermined

amount of charge and the amount of charge on the target area is determined by the number of the pulses.

19. (new) A semiconductor inspection method according to claim 16; wherein the acceleration voltage of the ion beam is set at a low acceleration of 10 kV or less.

20. (new) A semiconductor inspection method according to claim 17; wherein the acceleration voltage of the ion beam is set at a low acceleration of 10 kV or less.

21. (new) A method of inspecting a sample using a composite apparatus having a vacuum chamber, a first charged particle beam apparatus for scanning a first charged particle beam in the vacuum chamber, and a second charged particle beam apparatus for scanning a second charged particle beam in the vacuum chamber, the second charged particle beam being charged oppositely to the first charged particle beam, the method comprising the steps:

placing a sample to be inspected in the vacuum chamber;

irradiating the sample, in the vacuum chamber, with the first charged particle beam to charge the sample surface;

observing an image of the charged sample surface using the first charged particle beam apparatus and selecting a target area on the charged sample surface from the image;

irradiating the target area of the charged sample surface, in the vacuum chamber, with the second charged particle beam to cause the target area to undergo a change in voltage contrast; and

observing an image of the target area of the sample surface using the first charged particle beam apparatus to observe the voltage contrast change while the target area is being irradiated with the second charged particle beam.

22. (new) A method according to claim 21; wherein the step of observing an image of the target area of the sample surface is carried out to inspect for continuity of wiring on the sample or the presence of a defect in the sample.

23. (new) A method according to claim 21; wherein the first charged particle beam is an electron beam and the second charged particle beam is a positively charged ion beam.

24. (new) A method according to claim 23; wherein the acceleration voltage of the ion beam is 10 kV or less.

25. (new) A method according to claim 21; wherein the first charged particle beam is a positively charged ion beam and the second charged particle beam is an electron beam.

26. (new) A method according to claim 25; wherein the acceleration voltage of the ion beam is 10 KV or less.

27. (new) A method according to claim 21; wherein the second charged particle beam is a beam of intermittent pulses with a predetermined amount of charge and the amount of charge on the target area is determined by the number of the pulses.